**BACKGROUND**

- Blood transfusion is a life-saving intervention in Sub-Saharan Africa (SSA) for:
  - Obstetric hemorrhage
  - Malaria-associated anemia
  - Trauma
- There are long recognized deficiencies in blood transfusion safety in SSA spanning the transfusion landscape
- In the early 2000’s, external funding, namely PEPFAR, began supporting transfusion safety under the umbrella of HIV mitigation

**STUDY OBJECTIVE**

- To explore the current status of regional blood transfusion safety in SSA and document the implications of external funding

**METHODS**

- Literature Review of PubMed database:
  - Search Terms: 755 articles
    - “blood transfusion”
    - “Sub-Saharan Africa”
    - “hemovigilance”
    - Other relevant terms
  - Inclusion criteria: 84 articles
    - Published in English
    - 2009-present
    - 47 countries defined as the WHO African Region
  - “Grey literature” included (WHO website, etc.): 21 articles

**RESULTS**

- **Transfusion services organization and regulation**
  - 321 Infectious units that would have been missed due to false negative test results without quality assurance
  - 38 Out of 46 countries had a national blood policy in 2013
  - 13 Out of 46 countries have established national hemovigilance systems
  - 2 Countries only have reached the highest level of accreditation under the African Society for Blood Transfusions new tiered process

- **Blood product availability and usage**
  - 25 Out of 46 countries collect less than half their transfusion requirements
  - 1.29% vs. 0.42% Rates of HIV among first-time vs. repeat voluntary non-remunerated blood donors
  - 18 Trained hematologists in Tanzania; increased from 1 after implementation of training program
  - 19% Increase in whole blood collection in those countries receiving PEPFAR funding

- **Blood Safety**
  - <1% Incident HIV cases attributable to transfusion; down from previous unsupported statistic of 5-10%
  - >10% Donors prevalence of HBV in 6 West African Counties

- **Biological Blood Testing Costs**
  - Average sensitivity of HBV rapid diagnostic test (RDT)
  - 6 Out of 46 countries report universal screening for HBV, HCV, HIV, and syphilis

- **Transfusion Service Funding**
  - 2.1 billion USD Of international funding was allocated to transfusion from 2000-2015
  - 42% Of transfusion budget in West Africa provided by external funding

**CONCLUSIONS**

- Financial necessity constrains:
  - Safety considerations
  - Feasibility of emerging technologies
- Paucity of data limits future policy planning:
  - Epidemiology of transfusion-transmitted infection is poorly understood
  - Current policies are based on outdated and poorly supported statistics
- External aid’s role is complex:
  - Instrumental in development of coordinated national blood transfusion services
  - Outcomes are only being measured operationally
  - Poor understanding of effects on transfusion recipients
  - Little planning for inevitable withdrawal
- Increased efforts are being put into education and accreditation

**LIMITATIONS**

- Constrained to limited published materials
- Excludes relevant articles published in French and Portuguese
- Inadequate to understand real-time data or formulate policy

**IMPLICATIONS**

- Regional investment, tailored to resource-limitation from the onset, is needed to ensure safe and adequate blood transfusion in Sub-Saharan Africa
- The ramifications of external aid are poorly understood, raising questions about its efficiency
- Multi-centered studies are needed to monitor key indicators of blood safety in real-time